

CLAIMS

1. A method for forming contact openings in various locations of the upper surface of an integrated circuit comprising raised areas, some openings called critical openings (42) having to be formed between two neighboring raised areas, comprising the steps of:

- 5 covering the entire structure with a first protection layer (20);
- forming non-critical openings (41) in the first protection layer;
- coating the entire structure with a second protection layer (30) having the feature of specifically resisting against an etch in the areas where it has not received any
- 10 irradiation;
- performing an oblique irradiation so that the second protection layer is not irradiated at the bottom of the regions located between two raised areas;
- removing the non-irradiated portions of the second protection layer;
- removing the portions of the first protection layer located under the second
- 15 protection layer at the locations where this second protection layer has been removed;
- and
- removing the irradiated portions of the second protection layer.

2. The method of claim 1, wherein the first protection layer (20) is a silicon

20 nitride layer.

3. The method of claim 1, wherein the second protection layer (30) is a polysilicon layer.

25 4. The method of claim 3, wherein the irradiation is a boron implantation.

5. The method of claim 1, wherein the oblique implantation is performed under an angle from 45 to 60°.

30 6. The method of claim 1, wherein the raised areas correspond to gate areas of MOS transistors.

7. The method of claim 1, wherein the areas likely to be contacted are coated with a metal silicide.

8. The method of claim 1, wherein the step of the forming of non-critical
5 openings (41) in the first protection layer comprises the steps of:
coating the structure with a planarized layer (21),
removing the planarized layer at the locations of said non-critical openings,
etching said openings in the first protection layer, and
removing the planarized layer (21).

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9. The method of claim 8, wherein the planarized layer is a resin layer.